"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

S/126/63/015/003/007/025
E193/E383

AUTHORS: Palatnik, L.S., Kosevich, V.M. and Litvinenko, Yu.G.

TITLE: Effect of the substrate temperature and thickness of the bismuth condensate layers on their structure

PERIODICAL: Fizika metallov i metallovedeniye, v. 15, no. 3, 1963, 371 - 378

TEXT: 99.999% pure Bi was vacuum-deposited on a polished iron substrate in the form of a split ring, one end of which was cooled by running water, the other being electrically heated to produce a temperature gradient from 20 to 500 °C. The aim of the experiments was to study the effect of the substrate temperature and thickness of the vacuum-deposited Bi film on the mechanism of crystallization and on the microstructure of the film. The results of metallographic examination and X-ray analysis are best summarized in Fig. 3, where the change in the structure of the deposited layers is plotted as a function of the substrate temperature (°C, horizontal axis) and Bi film thickness (h, μ, vertical scale). The various curves represent boundaries between regions I - VI, in which differences in the crystal structure

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have been detected by X-ray diffraction.. In the range comprising regions I, II and III the solid Bi crystals are formed directly from the vapour phase and the resultant film has a uniform finely-crystalline structure. In range VI the formation of the film takes place by the mechanism of the vapour-liquid-solid transformation and the resultant film consists of relatively large grains resembling solidified droplets. In the range comprising regions IV and V both mechanisms of crystallization (i.e. the vapour-solid and vapour-liquid-solid) operate simultaneously and the vacuum-deposited film is a mixture of fine crystals and droplet-like grains. A Bi layer does not form in range VII, i.e. no condensation takes place when the substrate temperature exceeds approximately 420 °C. Θ_1 in Fig. 3 denotes the temperature at which the mechanism of deposition changes from vapour-solid to vapour-liquid-solid. When the thickness of the deposited film is small (less than 200 Å) Θ_1 for condensation of Bi on Fe is approximately 110 °C. Fig. 3 shows that as the thickness of the deposit increases, Θ_1 is shifted towards higher temperatures. The effect of the film thickness on the temperature at which

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Effect of the substrate ....

transition from one range to another occurs is most pronounced in the 0 - 0.5 μ interval. The position of the boundaries between individual ranges becomes stabilized on reaching a thickness of 5 μ or more. There are 7 figures.

ASSOCIATION: Khar'kovskiy politekhnicheskiy institut imeni V.I. Lenina (Khar'kov Polytechnical Institute imeni V.I. Lenin)

SUBMITTED: July 10, 1962

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 19946-65 EWT(1) ASD(a)-5/SSD/AS(mp)-2/AFWL/RAEM(a)/ESD(gs)/ESD(t)

ACCESSION NR: AP5000322 S/0056/64/047/005/1733/1735

AUTHOR: Yeremenko, V. V.; Popkov, Yu. A.; Litvinenko, Yu. G. 31 B

TITLE: Zeeman effect in the optical spectrum of antiferromagnetic MnF_2 crystals

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1733-1735

TOPIC TAGS: Zeeman effect, manganese compound, optical spectrum, antiferromagnetism, magnetooptical effect

ABSTRACT: The influence of strong magnetic fields (up to 2×10^5 Oe) on the structure of the spectrum of light absorption by antiferromagnetic MnF_2 crystals was measured at 20.4K with the magnetic field oriented both parallel and perpendicular to the C_4 axis of the crystals. The spectra were photographed with a DFS-13 diffraction

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spectrograph with linear dispersion approximately 3 Å/mm. The most clearly pronounced groups of absorption bands, due to the transitions $^6S_{5/2} \rightarrow {}^4G$ and $^6S_{5/2} \rightarrow {}^4D$ in the Mn^{++} ion, and located near 3900 and 3500 Å respectively, were investigated. Frequency shifts and band splitting in magnetic field exceeding 95 kOe (at which the magnetic sublattices of MnF_2 are inverted) were observed in the region of the optical transition $^6S_{5/2} \rightarrow {}^4D$. This fact, and also the fact that the magneto-optical effect is observed only when the field is oriented parallel to C_4 (the only orientation when inversion of the sublattices can be expected), leads to the conclusion that the magneto-optical effect and the inversion of the magnetic sublattices are related. "I am sincerely grateful to corresponding member AN UkrSSR B. I. Verkin and Professor A. S. Borovik-Romanov for interest in the work, and also N. N. Mikhaylov and S. P. Petrov for supplying

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L 19046-65
ACCESSION NR: AP5000322

the single crystals." Orig. art. has: 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk Ukrainskoy SSR (Physicotechnical Institute of Low Temperatures, Academy of Sciences, UkrSSR)

SUBMITTED: 20Jun64	ENCL: 00	SUB CODE: SS, OP
NO REF SOV: 005	OTHER: 009	ATD PRESS: 3157

Card 3/3

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 60348-65 EWG(j)/EWT(l)/EWT(m)/EPF(c)/EWP(t)/EWP(b) Pr-4/Ps-4/Pi-4 IJP(c)
JD/HW/GG
ACCESSION NR: AP5016554 UR/0056/65/048/006/1611/1617

AUTHOR: Yeremenko, V. V.; Litvinenko, Yu. G.; Ogneva, E. M.

TITLE: Temperature dependence of the intensity of the bands of "cooperative" absorption of light by crystalline oxygen

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 6, 1965, 1611-1617

TOPIC TAGS: oxygen, oxygen crystal, oxygen phase transition, cooperative absorption, optical absorption, temperature dependence, integral intensity

ABSTRACT: The purpose of the investigation was to gain further information on the mechanism whereby combined double transitions are induced in the spectrum of solid oxygen. The authors investigated the optical absorption spectra of crystalline oxygen in the temperature interval 4.2--25K, which includes the low-temperature phase transition point (23.9K), with special attention paid to two isolated narrow bands at 20,233 cm^{-1} (transition $2^3\epsilon \rightarrow 2^1\Delta$) and 23,814 cm^{-1} (transition $2^3\epsilon \rightarrow {}^1\epsilon + {}^1\Delta$). Polycrystalline α-phase oxygen samples were grown and their optical absorption spectra measured with the aid of the apparatus schematically shown in Fig. 1 of the Enclosure. The tests were limited to the visible part of the spectrum. The results showed that whereas the frequencies of the investigated bands remain stable as the temperature is varied from 4.2 to 25K, the integral intensity changes radi-

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 60348-65

ACCESSION NR: AP5016534

3

cally in the same temperature interval, staying constant up to about 12° (in the case of a 20,233 cm^{-1} band), and then dropping to about 1/5 of its value when the temperature rises to 22K. To explain this fact it is assumed that the "cooperative" transitions in the oxygen are induced by exchange interaction of the O_2 molecules; this interaction increases as a result of a change in the character of the rotation of the O_2 molecules on going from the β to the α modification of the crystalline oxygen. This hypothesis, however, cannot explain the difference in the temperature dependence of the two bands and the absence of a shift in the frequencies of the bands in this temperature interval. An investigation aimed at explaining these facts is now under way. "The authors thank Corresponding Member of AN UkrSSR B. I. Verkin and V. G. Manzhelii for continuous interest in the work." Orig. art. has: 4 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut nizkikh temperatur Akademii nauk Ukrainskoy SSR (Physicotechnical Institute of Low Temperatures, Academy of Sciences, UkrSSR)

SUBMITTED: 27Jan65 ENCL: 01 SUB CODE: SS, OP

NR REF SOV: 009 OTHER: 009

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 60348-65
ACCESSION NR: AP5016554

ENCLOSURE: 01

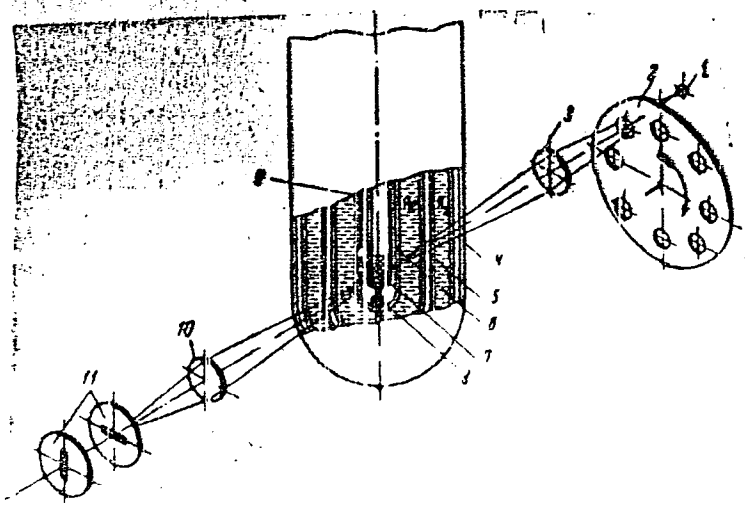

Fig. 1. Diagram or experimental setup.

1 - Light source,
2 - rotating perforated disc,
3 - focusing lens,
4 - flat windows,
5 - helium Dewar,
6 - Dewar for oxygen,
7 - solid oxygen sample,
8 - cold finger and heater,
9 - thermocouple,
10 - focusing lens,
11 - diaphragm with wedge attenuator and spectrograph entrance slit

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APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

TROSKUNOV, Ya., inzh.; LITVINENKO, Yu. P., inzh.

Improving rolling techniques at the Stalinsk Metallurgical Plant.
Biul. TSNIICHM no. 9:22-26 '58. (MIRA 11:7)
(Stalinsk--Rolling(Metalwork))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

KRAMCHANINOV, I.M., inzh.; BAGRYANSKIY, K.V., kand. tekhn.nauk;
LITVINENKO, Yu.P., inzh.; NASTOLOVSKIY, L.A., inzh.

Wear-resistant built-up welding of sheet mill rolls. Izv.vys. ucheb.zav.; radiotekh. 3 no.1:24-26 Ja-F '60. (MIRA 13:8)

1. Zhdanovskiy metallurgicheskiy institut.
(Rolls (Iron mills)--Maintenance and repair)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

YEKTOV, I.M.; ZAHUYEV, V.M.; GUROV, S.A.; REVENKO, I.F.; V rabote prinimali uchastiye : KALMANOVICH, Yu.R.; GRIGOR'YEV, F.N.; KOSHELENKO, A.M.; LITVINENKO, Yu.P.; DMITRIYEV, V.D.; POLYAKOV, V.V.; PETUSHKOV, Ye.S.; FIRSOV, P.V.

Rolling double bulb-bar shapes with longitudinal cutting in the finishing mill. Stal' 20 no. 12:1113-1115 D '60. (MIRA 13:12)

1. Stalinskiy metallurgicheskiy zavod i Donetskiy politekhnicheskiy institut.
(Rolling (Metalwork))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

TROSKUNOV, Ya.L.; LITVINENKO, Yu.P.

New grooving for the rolling of steel bulb bars. Biul. TSIICHM no.2:36-39 '61. (MIRA 14:9)

1. Stalinskiy metallurgicheskiy zavod.
(Rolling (Metalwork))

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINENKOVA, V., Cand Med Sci -- (diss) "Some hygienic requirements for the footwear of children in the pre-school years." Moscow, 1960. 15 pp; (First Moscow Order of Lenin Medical Inst im I. M. Sechenov); 200 copies; price not given; (KL, 17-60, 170)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINENKOVA, V.

The study of the foot state in two groups of country youth. Cesk. hyg. 10 no.6:369-373 Jl'65.

1. Ustav experimentalnej hygieny Slovenskej akademie ved, Bratislava.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

NEUSCHL, S.; LITVINENKOVA, V.;

Contribution to the stabilographic method. Cesk. hyg. 8 no.10: 581-593 D '63.

1. Katedra automatizacie elektrotechnickej fakulty, SVST Bratislava a Hygienicky ustav Lekarskej fakulty UK, Bratislava.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINENKOVA V.

Prague, Ceskoslovenska Hygiena, Vol VII, No 2/3, April 61
(publication)

STASTNA, E. ZDRUBKOVA, E. [illegible] of the Research Institute of Physical Culture, [illegible] pp 149-152. (English summary)

20. "Changes in the Vital Capacity in Obese Children During Longitudinal Investigation," E. ZAMRZLOVA of the Pediatric Clinic and Z. [illegible], Faculty Pediatrics [illegible] of Medical Hygiene, Brno, and V. LITVINENKOVA of the Institute of Medical Hygiene, Prague, p 152.

21. "An Attempt at Expressing the Muscular-Locomotor System of the Foot by Means of Principal Poses. Preliminary Communication," V. LITVINENKOVA of the Institute of Hygiene, Prague, Faculty of Physical Training, Charles University, Prague, pp 153-154. (English summary)

22. "Hygienic Problems in the Prefabrication of the Czecho-slovak School System," V. LITVINENKOVA and D. [illegible] of the Slovak School System, Bratislava, pp 155-161. (English summary)

23. "Typical Development of Children in the Primary Schools of Gdansk, Gdynia and Sopot," G. [illegible] of the Institute of Hygiene, Medical Academy, Gdansk, Poland, p 161. (English summary)

24. "Contribution to the Problem and Method of Research of the Functional Development of the Motor Analyzer in Youth," [illegible] of Education to Con of the Motor Education of the Various Developmental Stages of Children," [illegible] of the Research Institute of Pediatry, Budapest, Hungary (English summary)

25. "Effect of Polychemical Excursion on the Functional Condition of the Organism of Students of a Twelve-year Secondary School," [illegible] of the Faculty of Pedagogics, Charles University, Prague, pp 169-172. (English summary)

26. "Development of the Slovak Youth, 1952-1959," [illegible] of the Institute of Hygiene, Prague, p 172.

27. "Evaluation of the Effect of Productive Labor in the Construction Industry on the Physical Development of

(13)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINENKOVA, V.V.

Some methods applied to the hygienic evaluation of children's footwear. Uch. zap. Mosk. nauch.-issl. inst. san. i gig. no.2:78-80'59 (MIRA 16:11)

1. Moskovskiy nauchno-issledovatel'skiy institut sanitarii i gigiyeny imeni F.F. Erismana.

*

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINENKOVA, V.V.

Hygienic principles of a permissible degree of hardness of shoes for preschool children. Gig. i san. 25 no.3:40-44 Mr '60. (MIRA 14:5)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta sanitarii i gigiyeny imeni F.F.Erismana Ministerstva zdravookhraneniya RSFSR.
(BOOTS AND SHOES) (CHILDREN—CARE AND HYGIENE)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINETS, G.M.

Starinskiy State Poultry Farm has specialized in turkey husbandry. Ptitsevodstvo 9 no.5:12-18 My '59. (MIRA 12:7)

1. Glavnyy zootekhnik Starinskogo ptitsesovkhoza, Borispol'skogo rayona, Kiyevskoy oblasti.
(Turkeys)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINETS, G.N.; GORKOVA, L.V., red.

[115 centners of turkey meat per 100 hectares of arable land] 115 tsentnerov miasa indeek na 100 gektarov pashni. Moskva, Kolos, 1964. 86 p. (MIRA 17:11)

1. Direktor Starinskoy indeykovodcheskoy ptitsefabriki imeni XXII s"yezda KPSS Kiyevskoy oblasti (for Litvinets).

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

ROBOTOV, V.T.; NOVITSKIY, M.D.; LITVINETS, I.V.; RACHKOVSKAYA, Yu.N.; SUKHORUCHKIN, I.S.; NADEZHDINA, A., red.; TELEGINA, T., tekhn.red.

[Building inspection during construction; practical handbook] Kontrol'nye obmery v stroitel'stve; prakticheskoe posobie. Sost. kollektivom avtorov pod rukovodstvom V.T.Robotova. Moskva, Gosfinizdat, 1959. 275 p. (MIRA 13:1)

1. Vsesoyuznyy bank finansirovaniya kapital'nykh vlozheniy (for Robotov, Novitskiy, Litvinets, Rachkovskaya, Sukhoruchkin).
(Building inspection)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINICHEV, N.I., inzh.; ZHUKOV, S.P., slesar'

Headframe for driving ground electrodes. Suggested by N.I. Litvinichev, S.P.Zhukov. Rats.i izobr.predl.v stroi. no.13:30-32 '59. (MIRA 13:6)

1. Montazhnoye upravleniye No.75 tresta TSentroelektromontazh Ministerstva stroitel'stva RSFSR, Moskva, 3-y Grokhol'skiyper., 6. (Electric currents--Grounding)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

Litvinishin, G.

3615. Olshak, V., and Litvinishin, G., The nonlinear phenomenon of liquid flow in a rheological simulator (in Russian). [illegible] Rev. 53 (3).

To investigate the creeping of concrete and the relaxation of steel, which it has not been found possible to simulate by means of models formed of elastic and viscous elements, it is suggested to use a "hydraulic simulator" in the form of a pair of communicating vessels. One of these contains a piston, the force acting on which varies with the position of the piston. The area of the horizontal cross section of the second vessel varies with the height according to a particular law.

Simulation is based on the relationship between the distance from the bottom of the piston to a level $z_1(t)$ and the time t, which after contracting and integrating, has the following form:

$$z_1 = \frac{\beta}{\alpha} \left(1 - e^{-\frac{\alpha}{\beta} t}\right)$$

where α and β are constants.

Differing from the accepted Maxwell-Kelvin models which represent creep in the form of exponential curves, the present method enables the characteristics of the process to be defined by a representative function.

The phenomenon of chemical shrinkage can be simulated by the volatile liquid. Correlation of the characteristics of the rheological simulators with the behavior of solid steel gives satisfactory agreement. R. V. Tsarev. USSR

Courtesy Referativnyi Zhurnal
Translation, courtesy Ministry of Supply, England

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

BUDRYK, Vitol'd; LITVINISHIN, Yezhi; KNOTTE, Stanislav; SALUSTOVICH, Antoni. SHKLYARSKIY, M.F., inzhener [Translator]; AVERSHIN, S.G., professor, redaktor; SLAVOROSOV, A.Kh., redaktor; PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

[Problems in calculating surface displacements caused by mine work. Translated from the Polish] Voprosy rascheta sdvizhenii poverkhnosti pod vliianiem gornykh razrabotok. Perevod s pol'skogo M.F.Shkliarskogo, pod red.S.G.Aversshina. Moskva, Gos.nauchno-tekhnicheskoe izd-vo lit-ry po ugol'noi promyshl., 1956.63 p. (MLRA 9:5)
(Poland--Earth movements)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINETS, Grigoriy Mikhaylovich [Lytvynets', H.M.]; KUZ'MINA, M.F., red.; NEMCHENKO, I.Yu. [Niemchenko, I.IU.], tekhn. red.

[Commercial raising of turkeys for meat] Promyslove vyroshchuvannia indykiv na m'iaso. Kyiv, Derzhsil'hospvydav URSR, 1963. 37 p. (MIRA 17:3)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 39978-65 EEC(b)-2/EWP(k)/EWA(c)/EWT(l)/EWT(m)/EWP(b)/T/EWA(d)/EWP(e)/EWP(t)
Pt-4/Pi-4 IJP(c) GG/JD/HW/(S

ACCESSION NR: AT5006716 S/0000/64/000/000/0257/0260 35+1

AUTHOR: Sevenenko, V. P. (Meritorious scientist of science and technology BSSR, Academician AN BSSR, Doctor of technical sciences, Professor); Tochitskiy, E. I.; Litvinko, A. G.; Vashchenko, N. D.

TITLE: Mechanism of growth of NaCl whiskers

SOURCE: AN BSSR. Fiziko-tekhnicheskiy institut. Plastichnost' i obrabotka metallov davleniyem (Plasticity and metalworking by pressure). Minsk Izd-vo Nauka i tekhnika, 1964, 257-260 18

TOPIC TAGS: filamentary crystal, whisker growth, sodium chloride whisker, whisker strength

ABSTRACT: Filamentary crystals, or whiskers, of NaCl were grown by two methods: in a saturated solution of NaCl with the addition of polyvinyl alcohol and through a porous partition. In the first method 1% polyvinyl alcohol (by weight) was added to a saturated solution of NaCl, after which it was heated to the boiling point, then slowly cooled and filtered. A seed was lowered into the flask with the prepared solution and the NaCl whiskers began to grow on it. The linear rate of growth of the NaCl whisker was controlled by the rate of evaporation of the solution, pressure of the water vapor, and the surface area of evaporation. The

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experiments showed that even a negligible temperature fluctuation (from 10 to 27C) led to a change in the growth rate of the whiskers. With slow evaporation the growth rate reached 1 cm per day. Their cross section was square with sides from several to 100 μ with a side ratio of 6 : 1. In the second method, with crystallization through a porous partition, whiskers did not grow in the initial period. In subsequent periods they grew at a rate appreciably less than that of the whiskers from the solution with polyvinyl alcohol. Growth of the whiskers through the porous partition took place as follows. An unsaturated solution of NaCl rose along capillary pores to the outside surface of the porous partition. Owing to evaporation this solution became supersaturated and crystallization seeds formed that were commensurate with the size of the capillary pores. Since the NaCl crystal that was formed filled the diameter of the capillary, it was pushed out by hydrodynamic forces; the unsaturated solution was again supersaturated; the NaCl was deposited on the root of the already formed crystal, and the solid phase was again pushed out. This growth continued until the weight of the crystal reached a certain magnitude above which the whisker could not adhere to the root in the capillary and dropped off its own weight. The length of the whiskers thus

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ACCESSION NR: AT5006716

grown reached 1.5-2.0 cm and their thickness varied from 5 to 100 μ. Mechanical tests showed that there is a so-called scale factor of the dependence of strength on the cross section of the whisker. The best quality NaCl whiskers had an elastic limit of about 1.4% and tensile strength of about 63 kg/mm^2, which is about 1000 times greater than for the usual NaCl crystals. Orig. art. has: 3 figures and 1 formula.

ASSOCIATION: None

SUBMITTED: 16May64 ENCL: 00 SUB CODE: IC , SS

NO REF SOV: 003 OTHER: 000

Card 3/3 MB

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

10 (2)

AUTHOR: Litvinkov, S. S.

SOV/20-125-5-12/61

TITLE: On a Boundary Value Problem for Linearized Equations of the Hydrodynamics of a Viscous Fluid (Ob odnoy granichnoy zadache dlya linearizovannykh uravneniy gidrodinamiki vyazkoy zhidkosti)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 5, pp 998 - 1001 (USSR)

ABSTRACT: The present paper deals with the nonlinear equations of the non-steady motion of a viscous incompressible fluid within an infinite range B, which is bounded by a sufficiently smooth surface S. In the case of lacking external forces this equation is written down as follows: $\frac{\partial \vec{v}}{\partial t} = -\frac{1}{\varrho}\nabla\tilde{p} + \nu\Delta\vec{v}$, $\operatorname{div}\vec{v} = 0$. Here $\vec{v}$ denotes the velocity vector of the motions of the liquid, $\tilde{p}$ - pressure, ϱ - density, ν - the kinematic viscosity coefficient. The motion of the liquid is to depend exponentially on time: $\vec{v} = \vec{u}e^{-\alpha t}$; $\tilde{p} = p^{-\alpha t}$ $(\alpha > 0)$. In this case the above equations are reduced to the form $\Delta\vec{u} + k^2\vec{u} = \frac{1}{\mu}\nabla p$, $\operatorname{div}\vec{u} = 0$. Here μ denotes the viscosity of the fluid, and $k^2 = \alpha/\nu$ holds. The author

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endeavors to find the solution of the aforementioned equation in form of expansions in series with respect to generalized spherical harmonics which had been introduced in a paper by I. M. Gel'fand and Z. Ya. Shapiro (Ref I). The following lemma is first given: Every differentiable continuous vector function given on a sphere of the radius r can be expanded into an (explicitly given) uniformly convergent series of generalized spherical harmonics. This lemma is proved in a similar manner as the convergence of expansion into a Laplace series. Computation of the coefficients is given. By means of these coefficients the following particular solution of the system of equations is obtained: $\vec{u}_n^l = u_{rn}^l \vec{r}^o + u_{\theta n}^l \vec{\theta}^o + u_{\varphi n}^l \vec{\varphi}^o$. Here $\vec{r}^o$, $\vec{\theta}^o$, and $\vec{\varphi}^o$ denote the position coordinates of the spherical system of coordinates. Also the properties of these solutions in infinity are given. For every solution of this system of equations the conditions $\vec{u} = \vec{O}(r^{-1})$, $pu_r = o(r^{-1})$ at $r \to \infty$ are satisfied. The second part of this paper deals

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

On a Boundary Value Problem for Linearized Equations of the Hydrodynamics of a Viscous Fluid SOV/20-125-5-12/61

with the following boundary value problem: To find within the range B, the solution of the system of equations derived in the first part of this paper satisfying the following conditions: I) On the boundary S $\vec{u}/_S = \vec{F}(N)$ is assumed, where N denotes a point on the boundary. II) In infinity (at $r \to \infty$) the following conditions apply: $\frac{\partial \vec{u}}{\partial t} + ik\vec{u} = \vec{o}(r^{-1})$, $p = o(r^{-1})$. The following theorem holds: The solution of the aforementioned boundary value problem I - II is unique. In conclusion, the scheme of this proof is discussed. With $k = 0$ the hydrodynamic potentials of Odqvist (Ref 6) are, by the way, obtained. The author finally thanks I. N. Vekua for valuable comments. There are 8 references, 6 of which are Soviet.

PRESENTED: December 9, 1958, by I. N. Vekua, Academician

SUBMITTED: December 7, 1958

Card 3/3

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINKOV, S. S.

Convergence of Fourier series on generalized spherical functions. Izv. vys. ucheb. zav.; mat. no.4:92-103 '62. (MIRA 15:10)

1. Voronezhskiy lesotekhnicheskiy institut.

(Fourier series)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINKOV, S.S.

Differentiability of Fourier series with respect to generalized spheroidal functions. Dokl. AN SSSR 144 no.5:977-980 Je '62. (MIRA 15:6)

1. Voronezhskiy tekhnologicheskiy institut. Predstavleno akademikom V.I.Smirnovym.
(Functions, Spheroidal) (Fourier series)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

ZVER'KOVA, F.A.; LITVINOK, N.V.

Gangrene of the skin in reythroderma desquamativum in an infant. Vest. derm. i ven. 36 no.10:77-79 0'62
(MIRA 16:11)

1. Iz kafedry detskikh kozhnykh bolezney (zav. - prof. S. Ya. Golosovker) Leningradskogo pediatricheskogo meditsinskogo instituta.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.

A lamb with four heads. Veterinariia 33 no.9:51 S '56. (MLRA 9:10)

1.Glavnyy veterinarnyy vrach Neve-Dereven'kovskogo rayona, Orlovskoy oblasti.
(Abnormalities (Animals)) (Lambs)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.

Attention is focussed on current problems of sustaining reservoir pressure ("Fluid and gas flow in a porous medium" by G.F.Trebin. Reviewed by A. Litvinov). Neft. khoz. 38 no.9:69-71 S '60.
(MIRA 13:9)

(Oil reservoir engineering)

(Trebin, G.F.)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.

Remarks about an article. Avt.dor. 23 no.7:27 Jl '60.
(MIRA 13:7)

1. Rukovoditel' laboratorii konstruktsiy Donetskogo nauchno-issledovatel'skogo instituta nadshakhtnogo stroitel'stva.
(Prestressed concrete)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

BLOKH, G., kand.tekhn.nauk; LITVINOV, A., inzh.

How to build an asbestos cement roof. Stroitel' no.7:29-30 Jl '61. (MIRA 14:8)

(Asbestos cement)
(Roofs)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A.; KOSOLAPOV, S.Ya.; ROZENVASSER, G.R.

Precast reinforced concrete underground utility tunnel large enough to walk through. Gor.khoz.Mosk. 35 no.7:40-41 Jl '61. (MIRA 14:7)

1. Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva (DonNII).
(Precast concrete construction) (Tunnels)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A., inzh.; ROZENVASSER, G.R., inzh.

Precast tunnel large enough to walk through for underground piping.
Prom. stroi. 40 no.2:46-47 '62. (MIRA 15:7)
(Precast concrete) (Tunnels)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A.; inzh.; KOSOLAPOV, S.Ya., inzh.; ROZENVASSER, G.R., inzh.

Precast reinforced-concrete single tunnel for underground communication with the mine surface. Shakht. stroi. 5 no.8: 8-10 Ag '61. (MIRA 16:7)

1. Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury UkrSSR.
(Tunnels) (Precast concrete construction)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A., inzh.

Conference on improving the planning and construction of tower installations of multirope hoists. Shakht. stroi. 7 no.6:29-30 Je '63. (MIRA 16:7)

1. Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva.

(Mine hoisting)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, Aleksandr Adamovich; KOSOLAPOV, Solomon Yakovlevich; LUKIYENKO, Yekaterina Petrovna; FINKINSHTEYN, B.A., inzh., red.

[Electrothermal method of tensioning high-strength wire reinforcement] Elektrotermicheskii sposob natiazheniia vysokoprochnoi provolochnoi armatury; iz opyta predpriiatii stroitel'noi industrii Donbassa. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1961. 45 p. (MIRA 14:11)

1. Akademiya stroitel'stva i arkhitektury SSSR. Institut organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu. Byuro tekhnicheskoy informatsii. 2. Rukovoditel' Laboratorii zhelezobetonnykh konstruktsiy Donetskogo nauchno-issledovatel'skogo instituta nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury Ukrainskoy SSR (for Litvinov). 3. Donskoy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva Akademii stroitel'stva i arkhitektury Ukrainskoy SSR (for Kosolapov). 4. Glavnyy inzh. tresta "Donbasszhelezobeton" Stalinskogo sovnarkhoza (for Lukiyenko).
(Concrete reinforcement)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

S/133/61/000/011/010/010
A054/A127

AUTHORS: Litvinov, A. A., Shumeyko, R. I., Engineers

TITLE: Using high-strength cold-drawn wire without low-temperature annealing

PERIODICAL: Stal', no. 11, 1961, 1043 - 1044

TEXT: ГОСТ 8480-57 (GOST 8480-57) prescribes for high-strength, cold-drawn wires of the steel grades 70 and 90 used in prestressed, reinforced structures a minimum strength of 150 kg/mm^2 and a yield point of 120 kg/mm^2, with a relative elongation of not less than 5% and a minimum bending number of 3. These characteristics are only attained after low-temperature annealing of the wire in a lead or sodium nitrite bath. To eliminate this expensive process, reinforcement wire has been produced since 1959 by electrothermal and combined electrothermo-mechanical drawing. Tests carried out at the Donetskiy nauchno-issledovatel'skiy institut nadshakhtnogo stroitel'stva (Donets Scientific Research Institute of Mine Surface Structures) proved that at a certain correlation of heating time and temperature, low-temperature annealing of the wire can be omitted and it can be used with a lower relative elongation than required by GOST. The authors presented a table showing the change in mechanical properties of 5.0-mm diameter wires (without

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

Using high-strength cold-drawn wire...

0.81% carbon content) produced at the Kharbayzsk Plant, with and without low-temperature annealing, after brief electric heating to 350, 400, 450, 500 and 550°C within 5, 10, 15 and 20 seconds, (based on a series of 1,290 tests). The maximum strength of the nonannealed wires is obtained at 350°C and a heating time of 5 sec. Heating to higher temperatures reduces the strength. The critical strength (150 kg/mm^2) could be maintained for all heating periods tested (5 - 20 sec) at 350 - 400°C, when heated to 450 - 460°C, only for 20 seconds. The yield limit reaches the maximum when the wire is heated to 350°C for 10 seconds; relative elongation increases with the rising temperature and attains 9% at 550°C for heating times of 10 - 20 seconds. The number of bendings is also raised although a clearly defined regularity could not be found. The effect of electric heating is similar for specimens subjected to low-temperature annealing. The microstructure of electric-heated specimens with and without annealing is the same. It belongs to the sorbitic-troostite and sorbitic-type, with a microhardness of 310 - 450 units. Another advantage of electrically heated wires is that they can be coiled into small coils, weighing 20 kg at the minimum, as electric-heated wire-lengths are not longer than 6 m, whereas in the conventional process the wire is coiled into coils 550 - 2000 mm in diameter and as a rule they have to be uncoiled and

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

S/133/61/[illegible]/011/016/010
A054/A127

Using high-strength cold-drawn wire...

straightened before being used. There are 1 table and 2 figures.

ASSOCIATION: Donetskiy nauchno-issledovatel'skiy institut nadabakhtnoy [illegible] stva (Donets Scientific-Research Institute of Mine Sur[illegible]t

Card 3/3

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

BLINOV, A.F.; LITVINOV, A.A.

Some problems concerning the state of well investigation in oil fields of the Tatar A.S.S.R. Trudy VNII no.29:278-288 '60.
(MIRA 13:10)

1. Tatarskiy nauchno-issledovatel'skiy neftyanoy institut.
(Tatar A.S.S.R.--Oil reservoir engineering)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

KUL'CHITSKAYA, Yu.K.; LITVINOV, A.A.

Interference of production and injection wells. Neft. khoz. 38 no.11:6-10 N '60. (MIRA14:4)
(Romashkino region—Oil field flooding)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A.

Interference of horizons D1 and DII in the central area of the Romashkino field. Geol. nefti i gaza vol. 4, no. 4:43-46 Ap '61.
(MIRA 14:5)

1. Tatarskiy nauchno-issledovatel'skiy neftyanoy institut.
(Romashkino region—Oil fields—Production methods)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

YERONIN, V.A.; LITVINOV, A.A.; LI, A.D.

Improving the exploitation of injection wells in the Romashkono field. Neft. khoz. 39 no.2:26-31 F '61. (MIRA 17:2)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A.

Determining the injectivity of the wells of the Tatar petroleum fields. Nefteprom. delo no.7:7-11 '63. (MIRA 17:2)

1. Tatarskiy neftyanoy nauchno-issledovatel'skiy institut.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, Anatoliy Aleksandrovich ; BLINOV, Aleksey Fedorovich; CHOPOROVA, T.A., ved.red.

[Industrial testing of wells] Promyslovye issledovaniia skvazhin. Moskva, Izd-vo "Nedra," 1964. 234 p.
(MIRA 17:5)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A.

Investigating the absorptive power of edge-water injection wells in the oil fields of the Tatar A.S.S.R. Neft. khoz. 42 no.1:66-69 Ja'64. (MIRA 17:5)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 27090-66 EWT(m)

ACC NR: AP6017412 SOURCE CODE: UR/0097/65/000/010/0015/0018

AUTHOR: Gorodnitskiy, P. M. (Candidate of technical sciences); Yukhvets, I. A. (Candidate of technical sciences); Korenev, K. I. (Engineer); Riskind, B. Ya. (Engineer); Shumeyko, R. I. (Engineer); Livchak, T. N. (Engineer); Litvinov, A. A. (Engineer); Makarevich, A. A. (Engineer)

ORG: none

TITLE: Properties of high-strength reinforcement material subjected to electrical heating

SOURCE: Beton i zhelezobeton, no. 10, 1965, 15-18

TOPIC TAGS: concrete, wire, solid mechanical property

ABSTRACT: Specimens of high-strength reinforcing wire for concrete were subjected to mechanical tests to determine the effects of electrothermal prestressing on the strength of reinforcing materials. The experimental procedure is described and the mechanical characteristics, chemical composition and geometric shape of the various wires studied are given. It is found that the optimum pretensioning temperature (i.e. the highest temperature which does not reduce the ultimate strength of the wire) is 400°C for a 5-mm wire and 350°C for a 3-mm wire. These temperatures meet the standard requirements for permanent elongation of wire which is not low-temperature annealed during manufacture. Since 3-mm wire is not sufficiently tensioned

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

I 27090-66

ACC NR: AP6017412

at the maximum permissible temperature, the use of this wire is not recommended for the electrothermal pretensioning method. If 5-mm wire must be heated to more than 400° for the required degree of tensioning, the reduction in the strength characteristics of the wire must be taken into consideration. The electrical heating should be done at a rate of 15-30°/sec. A safety factor of 50% should be allowed for accidental overheating. Orig. art. has: 5 figures and 3 tables. [JPRS]

SUB CODE: 11, 20 / SUBM DATE: none

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A. S.

Automobile Engineering Research

Theory involved in turning three-axle automobiles. Avt. trakt. prom. no. 3. 1953

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.S.

VERTEBNAYA, I.P.; IZ"YUROVA, A.I.; KOLTUNOVA, A.S.; LITVINOV, A.S.; RUFFEL', M.A.

Sanitary state of bodies of water in the Lenin Volga-Don Navigation Canal system during the first year of its filling. Gig.i san. no.3:9-17 Mr '54. (MLRA 7:2)

1. Iz Instituta obshchey i kommunal'noy gigiyeny Akademii meditsinskikh nauk SSSR.
(Volga-Don Canal--Sanitary affairs)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.S.

Characteristics of unsteady turns of motor vehicles. Avt.prom. no.6:1-7 Je '60. (MIRA 13:8)
(Motor vehicles--Dynamics)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

BUTORIN, N.V.; LITVINOV, A.S.

Currents in Rybinsk Reservoir. Trudy Inst. biol. vnutr. vod no.6:270-302 '63. (MIRA 18:1)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

BUTORIN, N.V.; LITVINOV, A.S.

Using IU.K. Alekseev's self-recording flowmeter for studying the speed of flow in reservoirs. Biul. Inst. biol. vodokhran. no.12:59-62 '62. (MIRA 16:3)

1. Institut biologii vodokhranilishch AN SSSR. (Flowmeters) (Hydraulics)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.S.; ROTENBERG, R.V.; FRUMKIN, A.K.; FAL'KEVICH, B.S., doktor tekhn. nauk, retsenzent; PETROV, V.A., kand. tekhn. nauk, retsenzent; VOLKOV, P.M., doktor tekhn nauk; YEGORKINA, L.I., red.izd-va; MODEL', B.I., tekhn. red.

[Motor-vehicle chassis; construction and elements of design] Shassi avtomobilia; konstruktsiia i elementy rascheta. Moskva, Mashgiz, 1963. 502 p. (MIRA 16:12)
(Motor vehicles—Design and construction)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.T., inzh.

New highly efficient cyclone. Teploenergetika 10 no.4:41-44 Ap '63.
(MIRA 16:3)

1. Gosudarstvennyy nauchno-issledovatel'skiy institut po promyshlennoy i sanitarnoy ochistke gazov.
(Dust collectors)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

ACCESSION NR: AP4034653 S/0096/64/000/005/0042/0044

AUTHOR: Litvinov, A. T. (Engineer)

TITLE: Relative motion of a particle (or a drop of liquid) in rapid gas flow

SOURCE: Teploenergetika, no. 5, 1964, 42-44

TOPIC TAGS: relative motion, gas flow, dust precipitation, turbulent flow, hydrodynamic resistance

ABSTRACT: The author makes the following simplifying assumptions in the problem given in the title. The hard particle or drop of liquid is spherical; the forces of gravity, hydrodynamic interaction, and the electrostatic forces are negligibly small in comparison with the force of resistance to motion; the latter in the region $2 < Re < 10^4$ is proportional to velocity to a power between 1 and 2; the coefficient of hydrodynamic resistance to motion is equal to $k = \pi(.128 + 12.8/Re)$. He finds that the path length of acceleration of a particle 1 is proportional to the absolute gas flow velocity and the second power of the diameter of the particle, i.e., the smaller its diameter, the faster and shorter its path in being carried away by the gas flow. He gives numerical examples for various cases. From his formulas he can determine the value of relative or absolute velocity of the particle at any point

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ACCESSION NR: AP4034653

from its place of introduction into the gas flow. He considers the cases where the water in liquid stream form is introduced into the gas flow at a right angle. Orig. art. has: 11 formulas and 3 figures.

ASSOCIATION: none

SUBMITTED: 00	DATE ACQ: 15May64	ENCL: 00
SUB CODE: ME	NO REF SOV: 003	OTHER: 001

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.T.

Hydraulic resistance and efficiency of the action of a turbulent washer. Khim. prom. 40 no.8:624-629 Ag '64. (MIRA 18:4)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.T.

Increasing the efficiency of dust collecting with highly dispersed aerosols in the fine purification of gases by the scrubbing method. Stal' 25 no.7:667-669 Jl '65. (MIRA 18:7)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 11011-66 EWT(1)/EPF(n)-2/T/ETC(m) IJP(c) WW/GG

ACC NR: AP5025657 SOURCE CODE: UR/0080/65/038/010/2237/2242

AUTHOR: Litvinov, A. T. 44,55

ORG: none

54
B

21,41,55 21,41,55

TITLE: Inertial settling of particles on liquid droplets

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 10, 1965, 2237-2242

TOPIC TAGS: flow separation, Reynolds number, particle motion, intermolecular force, adhesive bonding

ABSTRACT: A theory on the trapping of solid particles (in a stream of gas) by liquid droplets is given. The theory takes into account the specific wettability of solid particles. Two regions of the Reynolds number are considered separately for the inertial settling of solid particles from gas phase onto liquid droplet: Re < 1 and 1 < < Re ≤ 300. The degree of trapping of solid particles by the liquid droplets η is calculated from the equation $\eta = l_i/l_i + 0.59\ D_{sp}$ where l_i is the distance of inertial flow of solid particles in the gas phase and D_{sp} is the diameter of the liquid droplet's cross section. Differential equations are derived for various limits of Re for hydrophic particles. These equations can be utilized in defining the optimal diameter ratio (diameter of solid particles to diameter of liquid droplet) which assures maxi-

UDC: 541.182.2/.3

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L 11641-66
ACC NR: AP5025657

mum inertial settling. Good agreement was found between the theory and experimental data in the literature. It was found that for solid particle diameters $d > 0.5\mu$, there is little inertial settling up to 150 m/sec relative linear velocity of gaseous phase. For $d > 0.5\mu$ the optimal d to D_{sp} ratio is 1:3 and for $d > 5\mu$ the optimal d to D_{sp} ratio is 1:20 and 1:200. Orig. art. has: 3 figures, 15 formulas.

SUB CODE: 20,07/ SUBM DATE: 23Apr64/ ORIG REF: 007/ OTH REF: 020

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

ACC NR: AP6036695 (N) SOURCE CODE: UR/0170/66/011/005/0569/0574

AUTHOR: Litvinov, A. T.

ORG: Scientific Research Institute for Gas Purification in Industry and Sanitation, Moscow (Institut po promyshlennoy i sanitarnoy ochistke gazov)

TITLE: On the motion of particles in the viscous medium of a jet flow

SOURCE: Inzhenerno-fizicheskiy zhurnal, v. 11, no. 5, 1966, 569-574

TOPIC TAGS: jet flow, jet stream, viscous flow

ABSTRACT: The motion of a particle is studied subsequent to its injection into a stream of constant velocity in a regime of Reynolds numbers equal to or less than 300. The mathematical model assumes a spherical particle in a stream described by the diffusion method for the vorticity transfer. The general solution for the resulting nonlinear system of equations is obtained in integral form. It is shown that sufficiently accurate approximations can be found in analytical form. Several examples are discussed and their relative velocity given for a range of particle sizes between 10 and 500 microns. The effect of inertial terms on the various ranges of computation is also discussed and a method is outlined for more accurate determinations of the particle velocity relative to the stream. Orig. art. has: 3 figures, 18 formulas.

SUB CODE: 13,20/ SUBM DATE: 05Apr66/ ORIG REF: 003/ OTH REF: 007

UDC: 532.58

Card 1/1

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

GERASIMENKO, P.I., kand.sel'skokhozyaystvennykh nauk; LITVINOV, A.V.

Comparative effectiveness of growing oak by various methods.
Agrobiologiia no.3:419-422 My-Je '62. (MIRA 15:10)

1. Ukrainskaya akademiya sel'skokhozyaystvennykh nauk, Kiyev.
(UKRAINE--OAK)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.Ya.

Origin and distribution of underground holes in loesslike clayey soils in the area near Krasnoyarsk. Osn.,fund. i mekh.grun. no.3:29-30 '59. (MIRA 12:8)
(Krasnoyarsk region--Karst)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.Ya.

Settling caused by the thawing of ice-bearing loams in the Yana-Indigirka maritime lowland. Mat. k osn. uch. o merz. zon. sem. kory no.5:56-72 '60. (MIRA 13:10)

(Yana Valley--Frozen ground)
(Indigirka Valley--Frozen ground)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.Ya.

Stability of cryogenic structures during the thawing of frozen siltstone in the Chita region. Trudy Inst.merzl.AN SSSR 16: 72-77 '60. (MIRA 13:4)
(Chita region--Frozen ground)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.Ya.

Traces of ancient cryogenic processes and phenomena in the vicinity of Krasnoyarsk. Trudy Inst.merzl.AN SSSR. '62.
(MIRA 16:2)

(Krasnoyarsk region--Cryopedology)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

GABRIYELOV, L.V.; SHEVTSOV, A.A.; LITVINOV, A.Ya.; KHIRNYKH, L.A.

Automation of group measuring installations. Neftianik 7 no.4:11-13 Ap '62. (MIRA 15:11)

1. Nachal'nik tsekha avtomatiki neftepromyslovogo upravleniya Abinneft' (for Gabriyelov). 2. Glavnyy inzh. neftepromyslovogo upravleniya Abinneft' (for Shevtsov). 3. Starshiy inzh. promyslovoy gruppy tsekha avtomatiki neftepromyslovogo upravleniya Abinneft' (for Litvinov). 4. Starshiy inzh. gruppy telemekhanizatsii tsekha avtomatiki neftepromyslovogo upravleniya Abinneft' (for Khirnykh).
(Kuban--Petroleum--Measurement)
(Automatic control)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

SHEVELEVA, N.S.; LITVINOV, A.Ye.

Geocryological research in the Krasnoyarsk area. Vest. AN SSSR 29 no.6:118-119 Je '59. (MIRA 12:5)
(Krasnoyarsk--Karst) (Soil mechanics)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, B.

USSR/Radio - Receivers Dec 50

"Revising First Audio Amplifier in the 'Rodina' Receiver," B. Litvinov, Krasnoye, Vinnitsa Oblast, Ukrainian SSR

"Radio" No 12, p 51

Describes phase-shifting circuit equivalent to interstage transformer which is used in "Rodina" receiver to make voltages applied to push-pull output state opposite in phase.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

SUDAKOV,S.G.; ALEKSANDROV,T.F.; BAGROV,M.A.; BULANOV,A.I.; KAMENSKAYA,M.V.; KUZ'MIN,B.S.; LITVINOV,B.A.;SINYAGINA,M.I.; TIMOFEYEV,A.A.; ZETIN,I.I.; SINYAGINA,V.I.

[Instructions for class I,II,III and IV leveling] Instruktsiia po nivelirovaniiu I, II, III i IV klassov. Moskva, Izd-vo geodezicheskoi lit-ry, 1955. 106 p. (MIRA 9:3)

1. Russia (1923- U.S.S.R.)Glavnoye upravleniye geodezii i kartografii. (Leveling)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

SUDAKOV, S.G.; ALEKSANDROV, T.F.; YELISEYEV, S.V.; IZOTOV, A.A.; KUZ'MIN, B.S.; LARIN, D.A.; LITVINOV, B.A.; MOLODENSKIY, M.S.; POVALYAYEV, P.I.; RYTOV, A.V.; TIMOFEYEV, A.A.; TOMILIN, A.F.; SHISHKIN, V.N. KUZ'MIN, G.M., tekhnicheskiy redaktor.

[Triangulation on the 1,2,3 and 4 order] Instruktsiia po triangulatsii 1,2,3 i 4 klassov. Moskva, Izd-vo geodezicheskoi lit-ry, 1956. 307 p. (MLRA 9:5)

1. Russia (1923- U.S.S.R.)Glavnoye upravleniye geodezii i kartografii. (Triangulation)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, B.A.

ROMANOV, L.A.; LITVINOV, B.A., kand.tekhn.nauk, dots. red.; SHAMAROVA, T.A., red.; ROMANOVA, V.V., tekhn.red.

[Optical altimeter with rectilinear altitude graduation lines] Opticheskii vysotomer s priamolineinymi vysotnymi shtrikhami. Izd-vo geodez. lit-ry, 1957. 47 p. (Leningrad. TSentral'nyi nauchno-issledovatel'skii institut geodezii, aeros"emki i kartografii. Trudy, no.120) (MIRA 11:4)
(Altimeter)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 02016-67

ACC NR: AM6004838 Monograph UR/

51
B41

Fedorov, Stephan Mikhaylovich; Litvinov, Anatoliy Pavlovich

Automatic control systems with digital computers; theory and design (Avtomaticheskiye sistemy s tsifrovymi upravlyayushchimi mashinami; teoriya i proyektirovaniye) Moscow, Izd-vo Energiya, 65. 0222 p. illus., biblio. 10,550 copies printed.

TOPIC TAGS: automatic control system, digital system, linear approximation, nonlinear automatic control system

PURPOSE AND COVERAGE: This book gives the principles of the theory of digital systems of automatic control with linear approximation and with calculation of the influence of the effect, their equation and transmission functions and methods of estimation and means of experimental study. This book is recommended for a wide group of specialists in automatic control.

TABLE OF CONTENTS (abridged):

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Ch. I. Equivalent structural representation of digital automatic systems --7
Ch. II. Mathematic apparatus for analyzing digital automatic systems --18
Ch. III. Effects of quantization by time on the dynamics of digital automatic systems --61

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 02016-67

ACC NR: AM6004838 O

Ch. IV. Synthesis of digital automatic systems by the method of logarithmic frequency characteristis --116
Ch. V. Effect of quantization by level on the dynamics of digital automatic systems --159
Ch. VI. Means of the correction of dynamic characteristics of digital automatic systems --175
Ch. VII. Methods of experimental analysis of digital automatic systems --215
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SUB CODE: 09 / SUBM DATE: 17Jun65/ ORIG REF: 049/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.A., inzh.; MAKARENKO, L.P., inzh.; NEZHURKO, I.Ya., inzh.; POVERSKIY, A.S., inzh.

Defining more accurately the ratio of overloading from the weight of equipment. Shakht. stroi. 8 no.10:23 O '64. (MIRA 17:12)

1. Donetskiy PromstroyNIIproyekt.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOVA, V.B.; LITVINOV, A.B.; DEMCHENKOV, P.A.; NEPENIN, Yu.N.

Production of a high-grade refined pulp by the sulfite-sulfate process. Bum. prom. 33 no.12:4-8 D '58. (MIRA 11:12)

1.Lesotekhnicheskaya akademiya imeni S.M. Kirova.
(Woodpulp)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A. D.

LITVINOV, A. D.

Some problems of training ship mechanics. Mor.flot 17 no.10:20-22 O '57. (MIRA 10:12)

1.Nachl'nik sudoknekhanicheskoy spetsial'nosti Rizhskogo morekhodnogo uchilishcha.

(Mechanical engineering--Study and teaching)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.D.

Mechanization of freight handling. MTO no.7:35 Jy '59.
(MIRA 12:11)

1. Chlen nauchno-tekhnicheskogo obshchestva zheleznodorozhnogo transporta.
(Railroads--Freight)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

KOROTKOV, V.N., inzh.; LITVINOV, A.D., inzh.

Prospects for the over-all mechanization of loading and unloading operations. Zhel.dor.transp. 41 no.6:8-13 Je '59. (MIRA 12:9)

(Railroads--Equipment and supplies)
(Loading and unloading)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.D.

The 4021 small fork lift truck. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.7:76-77 '62. (MIRA 15:7)
(Fork lift trucks)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A. D.

The VAZ-50-125 charging unit. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch. i tekh.inform. no.10:67-68 '62. (MIRA 15:10)

(Electric batteries)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A.D.

Equipment for cleaning gondola cars. Biul.tekh.-ekon.inform. Gos.nauch.-issl.inst.nauch. i tekh.inform. 16 no.5:64-66'63. (MIRA 16:7)

(Railroads—Freight cars—Cleaning)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

BEZUGLYY, S.F.; LITVINOV, A.F.

Preparing a 50% combined DDT and hexachlorocyclohexane emulsion-paste. [Trudy] NIUIF no.171:92-96 '61. (MIRA 15:7)
(DDT (Insecticide)) (Benzene hexachloride)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

L 11119-65 EWP(c)/EWP(k)/EWP(b)/EWP(d)/EWA(d)/EWP(v)/EWP(l) Pf-4

ACCESSION NR: AP5009041 S/0302/65/000/001/0060/0061
621.311.172

AUTHOR: Grudin, M. G.; Litvinov, A. M.

TITLE: Automatic finder of faults in the distributor of a centralized monitoring system

SOURCE: Avtomatika i priboroatroyeniye, no. 1, 1965, 60-61

TOPIC TAGS: fault finder, automatic fault finder, monitoring system

ABSTRACT: The development of an automatic device for quick fault finding in a relay-type local distributor is briefly reported; the distributor serves for successively connecting a number of sensors to the machine. The fault finder generates a cycle of pulses which are intended to operate the distributor in a definite sequence. A central distributor, whose operation is synchronous and in phase with the one being tested, records and indicates the fault. A. N. Koval', V. A. Filipenko, and V. G. Shostak took part in building the device. Orig. art. has: 2 figures.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

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ACCESSION NR: AP5009041

ASSOCIATION: Institut avtomatiki Goskomiteta po priborostroyeniyu Gosplana SSSR (Institute of Automation, State Committee on Measuring Instruments, Gosplan SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: EC

NO REF SOV: 000 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

LITVINOV, A. M.

Engr., Moscow Energetics Inst. im Molotov, -c1948-c-49-.

"Inversion Method for Measuring High DC Voltages,"

Elektrichvestvo, No. 10, 1948;

"Series Cascade of Tubes in Inverse Operation for High

Voltage Measurements," ibid., No. 4. 1949.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

ARKHIPOV, G.N., inzhener; GUREVICH, N.A., inzhener; LAZORIN, S.N., kandidat tekhnicheskikh nauk; LITVINOV, A.M., inzhener.

Preventing tarry deposits on coke-oven doors and doorframes. Koks i khim. no.2:31-35 '56. (MLRA 9:7)

1.Khar'kovskiy koksokhimicheskiy zavod.
(Coke ovens)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

S/637/61/000/000/007/008
D201/D301

AUTHOR: Litvinov, A.M., Senior Design-Engineer

TITLE: Pulse operated temperature controllers

SOURCE: Konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy. Novosibirsk, 1959. Trudy. Novosibirsk, 1961, 315 - 322

TEXT: After a short survey of problems associated with pulse operated instruments, the author describes the following practical circuits of pulse operated temperature controllers: 1) A controller using a relay and a thermal relay, consisting of a pulse generator, measuring circuit and an output relay. The pulse generator is a self-releasing bimetal thermal relay with a magnetic accelerator. The differential measuring circuit consists of the resistance of the temperature pick-up and of that of the relay winding and of another section with a reference resistor in conjunction with a group of resistors required for the necessary dead zone and the second winding of the previously mentioned relay identical but in

Card 1/3

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Pulse operated temperature controllers

opposition to the first. Using a mass-produced relay type РП-4 (RP-4) it was possible to reduce the dead zone down to 0.1 - 0.2°C. Further decrease produced oscillations. 2) A controller using a relay and a thyratron, similar in operation to the previous one but suitable for larger d.c. voltages. The pulse generator here is a normal RC relaxation cold cathode thyratron oscillator. The stable firing potential is used to feed the measuring circuit with pulses of constant amplitude. The relaxation oscillator is stabilized against supply voltage fluctuations. 3) Discrete reducing controller. Differs from the previous ones in that in the measuring circuit the two-position relay is replaced by three-position pulses, counted by a relay counter using a two-winding relay. It is concluded that one of the main advantages of the circuits described is that it is possible to construct a controller having a good sensitivity without the need for amplification. Quite promising seems to be the possibility of using such controllers in conjunction with pulse-operated motor control, e.g. in astatic regulators. The polarized relays may be successfully replaced by magnetic or semiconductor devices and the design principles could be applied for

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D201/D301

Pulse operated temperature controllers

control and measurement of other electrical parameters. The following design engineers of the "Teplokontrol'" plant participated in the present work: L.R. Mirovich, I.I. Vinshtoyn, A.N. Kravchuk. There are 6 figures and 5 Soviet-bloc references.

ASSOCIATION: Zavod "Teplokontrol'", L'vov ("Teplokontrol'" Plant, L'vov)

Card 3/3

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2

ARKHIPOV, G.N.; LITVINOV, A.M.; SIMENSON, A.P.

Arrangement for utilizing waste heat of coke-oven standpipes. Koks i khim. no.7:18-19 '56. (MLRA 9:12)

1. Khar'kovskiy koksokhimicheskiy zavod.
(Waste heat) (Coke ovens)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000930220003-2"